

Serial No.: 10/694,375

Art Unit: 1774

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CLAIMS

1. (currently amended) An optical media comprising:
 - a) a support layer;
 - b) a series of read-write capability layers; and
 - c) U.V. curable or photoimageable protective film comprising a binder, one or more monomers and a photoinitiator.
2. (cancelled)
3. (currently amended) The optical media according to ~~claim 2~~ claim 1, wherein the binder is hydrophobic with little or no acid functionality.
4. (original) The optical media according to claim 3 wherein said binder is selected from the group consisting of (meth)acrylic acid, itaconic acid, ethyl(meth)acrylate, n-butyl (meth)acrylate, propyl (meth)acrylate, methyl (meth)acrylate, octyl acrylate, n-hexyl (meth)acrylate, t-butyl (meth)acrylate, secbutyl (meth)acrylate, isobutyl (meth)acrylate, 2-ethyl hexyl (meth)acrylate, styrene, isobutyl (meth)acrylate, substituted styrenes, and vinyl esters.
5. (original) The optical media according to claim 4 wherein the binder is isobutyl methacrylate.
6. (currently amended) The optical media according to ~~claim 2~~ claim 1 wherein the one or more monomers are selected from the group consisting of acrylic and methacrylic acid and acid esters, vinyl ethers, polyester acrylates, and polyurethane acrylates.
7. (original) The optical media according to claim 6 wherein said one or more monomers are selected from the group consisting of allyl (meth)acrylate,

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tetrahydrofurfuryl (meth)acrylate, isodecyl (meth)acrylate, 2(2-ethoxyethoxy) ethyl (meth)acrylate, stearyl (meth)acrylate, lauryl (meth)acrylate, 2-phenoxyethyl (meth)acrylate, glycidyl (meth)acrylate, isobornyl (meth)acrylate, tridecyl (meth)acrylate, isooctyl (meth)acrylate, caprolactone (meth)acrylate, polyethylene glycol (meth)acrylate, propylene glycol (meth)acrylate, ethylene glycol (meth)acrylate, 1,3-butylene glycol di(meth)acrylate, 1,6-hexanediol di(meth)acrylate, neopentyl glycol di(meth)acrylate, polyethylene glycol di(meth)acrylate, polypropylene glycol di(meth)acrylate, ethoxylated bisphenol A di(meth)acrylate, propoxylated bisphenol A di(meth)acrylate, alkoxylated cyclohexane dimethanol di(meth)acrylate, cyclohexane dimethanol di(meth)acrylate, trimethylolpropane tri(meth)acrylate, ethoxylated trimethylolpropane tri(meth)acrylate, propoxylated trimethylolpropane tri(meth)acrylate, tris (2-hydroxy ethyl) isocyanurate tri(meth)acrylate, pentaerythritol tri(meth)acrylate, ethoxylated glycerol tri(meth)acrylate, propoxylated glycerol tri(meth)acrylate, pentaerythritol tetra(meth)acrylate, ethoxylated pentaerythritol tetra(meth)acrylate, propoxylated pentaerythritol tetra(meth)acrylate, dipentaerythritol penta(meth)acrylate, dipentaerythritol hexa(meth)acrylate, polyester (meth)acrylates, polyurethane (meth)acrylates, and combinations of the foregoing.

8. (original) The optical media according to claim 7 wherein at least one monomer is monofunctional and at least one monomer is multifunctional.
9. (currently amended) The optical media according to ~~claim 2~~ claim 1 wherein the photoinitiator is selected from the group consisting of benzoin ethers, benzyl ketals, acetophenones, benzophenones, and combinations of the foregoing.
10. (original) The optical media according to claim 9 wherein the photoinitiator comprises 1-hydroxy cyclohexyl phenyl ketone.

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11. (currently amended) The optical media according to ~~claim 2~~ claim 1 wherein the U.V. curable or photoimageable protective film further comprises an additive selected from the group consisting of adhesion promoters, stabilizers, flow additives, surfactants, and other additives.
12. (original) A method of applying a protective film to an optical substrate comprising the steps of:
 - a. formulating a U.V. curable or photoimageable dry film by coating a U.V. curable or photoimageable composition onto a carrier sheet;
 - b. laminating the U.V. curable or photoimageable protective layer onto an optical substrate;
 - c. curing the U.V. curable or photoimageable film using actinic radiation for a time sufficient to achieve a complete cure of the photoimageable film; and
 - d. removing the carrier sheet from the film.
13. (original) The method according to claim 12 wherein the carrier sheet is selected from the group consisting of polyester and polyethylene terephthalate.
14. (original) The method according to claim 12 wherein the U.V. curable or photoimageable composition comprises a binder, a solvent, a monomer, and a photoinitiator.
15. (original) The method according to claim 14 wherein the binder is hydrophobic with little or no acid functionality.
16. (original) The method according to claim 15 wherein said binder is selected from the group consisting of (meth)acrylic acid, itaconic acid, ethyl(meth)acrylate, n-butyl (meth)acrylate, propyl (meth)acrylate, methyl (meth)acrylate, octyl (meth)acrylate, n-hexyl (meth)acrylate, t-butyl (meth)acrylate, secbutyl (meth)acrylate, isobutyl

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(meth)acrylate, 2-ethyl hexyl (meth)acrylate, styrene, isobutyl methacrylate, substituted styrenes, and vinyl esters.

17. (original) The method according to claim 16, wherein the binder is isobutyl methacrylate.
18. (original) The method according to claim 14, wherein the one or more monomers are selected from the group consisting of acrylic and methacrylic acid and acid esters, vinyl ethers, polyester acrylates, and polyurethane acrylates.
19. (original) The method according to claim 18 wherein said one or more monomers are selected from the group consisting of allyl (meth)acrylate, tetrahydrofurfuryl (meth)acrylate, isodecyl (meth)acrylate, 2(2-ethoxyethoxy) ethyl (meth)acrylate, stearyl (meth)acrylate, lauryl (meth)acrylate, 2-phenoxyethyl (meth)acrylate, glycidyl (meth)acrylate, isobornyl (meth)acrylate, tridecyl (meth)acrylate, isooctyl (meth)acrylate, caprolactone (meth)acrylate, polyethylene glycol (meth)acrylate, propylene glycol (meth)acrylate, ethylene glycol (meth)acrylate, 1,3-butylene glycol di(meth)acrylate, 1,6-hexanediol di(meth)acrylate, neopentyl glycol di(meth)acrylate, polyethylene glycol di(meth)acrylate, polypropylene glycol di(meth)acrylate, ethoxylated bisphenol A di(meth)acrylate, propoxylated bisphenol A di(meth)acrylate, alkoxylated cyclohexane dimethanol di(meth)acrylate, cyclohexane dimethanol di(meth)acrylate, trimethylolpropane tri(meth)acrylate, ethoxylated trimethylolpropane tri(meth)acrylate, propoxylated trimethylolpropane tri(meth)acrylate, tris (2-hydroxy ethyl) isocyanurate tri(meth)acrylate, pentaerythritol tri(meth)acrylate, ethoxylated glycerol tri(meth)acrylate, propoxylated glycerol tri(meth)acrylate, pentaerythritol tetra(meth)acrylate, ethoxylated pentaerythritol tetra(meth)acrylate, propoxylated pentaerythritol tetra(meth)acrylate, dipentaerythritol penta(meth)acrylate, dipentaerythritol hexa(meth)acrylate, polyester (meth)acrylates, polyurethane (meth)acrylates, and combinations of the foregoing.

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20. (original) The method according to claim 19 wherein at least one monomer is monofunctional and at least one monomer is multifunctional.
21. (original) The method according to claim 14 wherein the photoinitiator is selected from the group consisting of benzoin ethers, benzyl ketals, acetophenones, benzophenones, and combinations of the foregoing.
22. (original) The method according to claim 21 wherein the photoinitiator comprises 1-hydroxy cyclohexyl phenyl ketone.
23. (original) The method according to claim 14 wherein the U.V. curable or photoimageable protective film further comprises an additive selected from the group consisting of adhesion promoters, stabilizers, flow additives, surfactants, and other additives.